

Agenda of Aug 21, 2008

**TO: Sacramento Area Flood Control Agency
Board of Directors**

**FROM: Stein M. Buer, Executive Director
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**SUBJECT: INFORMATION – NATOMAS LEVEE IMPROVEMENT PROGRAM
UPDATE**

SUMMARY

This is an information item supplementing staff reports presented to your Board in May and July 2008. As outlined in those reports, a series of project design, permitting, cost and financing issues require adjustments to the phased implementation plan for the Natomas Levee Improvement Program (NLIP) that was presented in the Final Engineer's Report (Final Engineer's Report) for the SAFCA Consolidated Capital Assessment District (CCAD). The Final Engineer's Report anticipated that the improvements necessary to provide the Natomas Basin (Basin) with a 100-year level of flood protection could be completed in a four-year construction cycle commencing in 2007 and ending in 2010. It was assumed that certification of the improved levee system, as meeting the Federal Emergency Management Agency (FEMA) levee standards, would occur by mid-2011 and that all of the improvements needed to provide the Basin with a 200-year level of flood protection could be completed by the end of 2012. Staff now believes that permitting issues will set back this schedule by one year. Moreover, because the estimated cost of the project has risen due to changes in the project design since the Final Engineer's Report was approved in April 2007, completion of the 100-year phase of the project will depend on obtaining Congressional assurances that non-Federal NLIP expenditures will be credited against the non-Federal share of the cost of the remainder of Sacramento's 200-year flood protection program. Staff anticipates that these assurances will be provided when Congress reviews the status of Sacramento's urban levee improvement program in 2010. By then, the NLIP should be far enough along for FEMA to consider revising the Flood Insurance Rate Maps (FIRMs) applicable to the Basin and lifting restrictions on new construction in the Basin pending achievement of at least a 100-year level of flood protection the following year.

BACKGROUND

The four-year NLIP project phasing strategy and finance plan presented in the Final Engineer's Report (April 2007) were based on an evaluation of the condition of the

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perimeter levee system around the Basin that was presented to your Board in July 2006. The evaluation identified 26 miles of levee as being potentially 200-year deficient. At that time it was assumed that these deficiencies could be addressed relatively quickly by raising and strengthening the affected levees in accordance with existing Federal and State authorizations without any substantial Washington-level review by the U.S. Army Corps of Engineers (Corps) beyond confirmation of the potential eligibility of the proposed improvements for Federal credit. It was also assumed that the improvements necessary to provide 100-year protection could be constructed for \$260.0 million and the cost of the repairs necessary to provide 200-year protection could be constructed for a combined total of \$414.0 million. On this basis, the Final Engineers Report assumed that the 100-year improvements could be completed by the end of 2010 relying entirely on SAFCA's CCAD and the State of California's (State's) Proposition 1E bond funds.

These assumptions did not anticipate subsequent changes in Corps policies and regulations covering physical alterations to Federal project levees and management of encroachments affecting such levees. Moreover, due to limited information regarding the condition of the levees along the east side of the Basin, including the Pleasant Grove Creek Canal (PGCC) west levee and the Natomas East Drainage Canal (NEMDC) west levee, the 2006 evaluation significantly underestimated the actual scope of the improvements required to achieve the flood protection goals of the NLIP in this portion of the Basin. As outlined below, these changed conditions require adjustments to the NLIP phasing strategy and finance plan.

First, the expected pace of construction has been slowed by the Corps' determination that any physical alteration of a Federal project levee, including levee raising and strengthening as proposed in the Final Engineer's Report, must be reviewed and approved by the Corps' Washington headquarters and the approval process must be considered a major Federal action subject to compliance with the National Environmental Policy Act (NEPA). Compliance with this requirement has added nearly one year to the environmental review and permitting process for the project and largely eliminated any opportunity for initiating substantial project construction activities in 2008.

Second, at about the time your Board approved the Final Engineer's Report, the Corps released a draft white paper outlining their requirements for managing vegetation and encroachments on Federal project levees. These requirements created immediate problems for SAFCA's plan to raise and strengthen the Sacramento River east levee because of the extent of the riparian vegetation and residential and commercial encroachments along this levee. Accordingly, while SAFCA and the California Department of Water Resources (DWR) initiated a public dialogue with the Corps aimed at modifying several elements of the new policy, SAFCA's consultant team quickly developed a new design for the Sacramento River east levee (the 'adjacent levee' alternative) that would avoid and/or minimize the need for extensive removal of vegetation and encroachments from the water side of the existing levee. However, by significantly expanding the landside footprint of the existing levee and greatly increasing the project demand for soil material for

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levee construction, the adjacent levee alternative has created substantial new right-of-way, relocation and environmental mitigation requirements that have complicated the environmental review and permitting process and added costs to the project that were not anticipated in the estimates presented in the Final Engineer's Report. Although these costs are lower than they would be if the levee was raised and strengthened in place under the new Corps policy, the adjacent levee alternative has added about \$130.0 million to the NLIP cost estimate presented in the Final Engineer's Report.

Third, with respect to the levees along the east side of the Basin, new levee stability and underseepage data gathered in the year following your Board's approval of the Final Engineer's Report indicate that portions of these levees may not meet current 100-year protection criteria for levee stability and underseepage and will require more substantial improvements to provide 200-year protection than previously thought. These improvements, including installation of deep cut-off walls in locations where the levee crosses old stream beds (Dry Creek, Magpie Creek and Arcade Creek), will substantially increase the estimated cost of this segment of the NLIP adding about \$75.0 million to the overall project cost estimate presented in the Final Engineer's Report. This increase, when added to the cost of incorporating the adjacent levee alternative into the project, raises the estimated cost of the NLIP from \$414.0 million to \$618.1 million, of which approximately \$580.0 million is allocable to achieving at least a 100-year level of flood protection.

Table 1 compares current (August 2008) estimated construction costs for the NLIP to the July 2006 cost estimates that informed the Final Engineer's Report and Table 2 compares the total program costs corresponding to these estimates.

**Table 1
NLIP Construction Costs**

Levee Reach	August 2008 Estimate (Millions)	July 2006 Estimate (Millions)
Sacramento River	\$254.9	\$218.3
Natomas Cross Canal	\$57.0	\$70.0
NEMDC/PGCC	\$95.7	\$23.0
American River	\$13.5	\$14.1
Total =	\$421.1	\$325.4

**Table 2
NLIP Program Costs**

Levee Reach	August 2008 Estimate (Millions)	2006 NLEP Report Estimate (Millions)
Construction	\$421.1	\$324.1
Right of Way	\$89.7	\$1.5
Mitigation & Permitting	\$28.3	\$14.5
Engineering and Construction Management	\$79.0	\$74.0
Total =	\$618.1	\$414.1

DISCUSSION

Responding to these changed conditions, the staff reports presented to your Board in May and July 2008 raised the possibility that the delays associated with environmental review and permitting might be overcome by aggressively revising the project construction program and completing the entire 100-year program within the planned four-year cycle (2007 to 2010). This would allow SAFCA to meet the original goals of completing enough work by the end of 2009 to allow FEMA to revise the FIRMs for the Basin and allow local land use agencies to lift restrictions on new construction in Natomas, and completing enough work by the end of 2010 to certify that the Natomas levees meet 100-year requirements, thereby lowering flood insurance rates in the Basin. Staff is now persuaded that adhering to such an aggressive schedule could further increase project costs and potentially undermine the structure of the CCAD. This is because SAFCA would be required to significantly escalate the early implementation funding allocated to Natomas from the CCAD as a whole before receiving any assurances from Congress that this funding will be credited against SAFCA's share of the cost of the remaining elements of Sacramento's 200-year flood protection program. Without these assurances, there is a risk that early implementation investments could be stranded, potentially impairing SAFCA's ability to finance the improvements necessary to provide 200-year flood protection to the CCAD benefit zones outside Natomas.

In order to manage this risk, staff believes it would make more sense to accept the delay that has occurred, plan on extending the construction cycle to five years (2007 to 2012), and seek assurances from Congress regarding credit for early implementation investments during the 2010 Federal legislative session before these investments exceed the long-term funding capacity of the Natomas area. These assurances could be secured in connection with Congress' review of the status of Sacramento's urban levee improvement program which is expected to occur during the 2010 session. The Corps is in the process of preparing a General Reevaluation Report (GRR) for the American River Common Features Project (which includes the Basin) that will serve as the basis for this review. This report is scheduled for completion in 2010. Staff anticipates that the GRR will provide the engineering and economic basis for Congress to determine that investments by SAFCA and the State in early implementation of the NLIP may be used as credits to offset subsequent SAFCA and State contributions to the other elements of Sacramento's 200-year flood protection program including modifications to Folsom Dam (Joint Federal Project) and the levees along the American and Sacramento Rivers outside Natomas.

Staff believes the NLIP can be phased such that program costs are limited to \$430.0 million until Congress makes a determination as to credits for these costs. This limitation would be consistent with long-term funding capability of the Natomas area as established in connection with SAFCA's recently adopted development impact fee program. The prioritization of the improvements to be included in this modified phasing plan would need to be coordinated with the State

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which would continue to provide 70 percent of the cost. The primary focus would be on the levee reaches that represent the greatest threat to public safety. The plan would also be scoped to achieve FEMA's adequate progress criteria by the end of 2010 with FEMA remapping the Basin and the removing restrictions on new construction by mid 2011 (a year later than originally planned). Coordination with FEMA and the floodplain management agencies is necessary to confirm that the proposed strategy will meet their adequate progress criteria. The design team would continue with problem identifications studies, alternative analyses, permitting, NEPA and CEQA compliance and some real estate acquisition and utility relocation so the remainder of the program could be quickly implemented if Congress approves the work as creditable. The overall schedule would be as follows:

- Completion of 50 percent of the levee improvements by November 2010, with FEMA adequate progress remapping in mid 2011.
- Completion of the 100-year levee improvements by November 2011, with FEMA 100-year remapping in mid 2012.
- Completion of the 200-year levee improvements by November 2012, with certification that the program meets the State's 200-year flood protection requirements by mid 2013.

This schedule assumes timely assurances by Congress, offered in connection with the GRR review process in 2010, that non-Federal investments in early implementation of the NLIP will be credited. If the GRR is delayed, this schedule could also be delayed unless an alternative vehicle for securing Congressional approval of credits for NLIP investments can be identified.

The NLIP schedule will continue to be updated and ongoing reports will be provided to your Board on a regular basis as the program moves forward.

RECOMMENDATION

Staff recommends your Board receive and file this report.

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Attachments